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SERVICE MANUAL SR220/SR220L

marantz®

model SR220/SR220L

Stereophonic Receiver

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ Company has created the ultimate in stereo sound. Only original MARANTZ parts can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ stereo are generally available within 72 hours throughout the nation via a toll-free line to our National Parts Depot in California. The sales professionals who take your call immediately refer to their own desk top computer terminal and can quickly determine the availability and price information you require. If, for some reason, your order should exceed our available stock, we usually can instantly provide an alternate replacement part or current delivery information. When the order is placed and confirmed, the computer simultaneously generates "hard copy" orders at the distribution center. As hard copies come directly from the computer to the national parts depot, your requested stock is assembled and prepared for shipment and placed on the first available carrier for delivery to you.

ORDERING PARTS

Phone orders will eliminate mail delays, and we encourage the use of this method. If you order by mail, use MARANTZ parts order froms which are available from our National Parts Depot located at the following address:

SUPERSCOPE NATIONAL PARTS DEPARTMENT
20525 Nordhoff Street
Chatsworth, California 91311
Phone: 1-800-423-5108
1-213-998-9333

The following information must be supplied to eliminate delays in processing your order:

1. Complete address.
2. Complete part numbers.
3. Complete description of parts.
4. Model number for which part is required (indicate MARANTZ).
5. Account number (for account customers only).

Direct consumers will be provided with the current retail price quotation on available parts in order to advise them of the cost of the parts and shipping.

OVERSEAS PARTS ORDERING

Parts may also be ordered from the following overseas addresses:

U.S.A.

MARANTZ COMPANY, INC.
National Service Dept.
P.O. Box 577
Chatsworth, CA 91311
U.S.A.

CANADA

SUPERSCOPE CANADA, LTD.
3710 Nashua Drive
Mississauga
Ontario, Canada L4V1M5

AUSTRALIA

MARANTZ AUSTRALIA
32 Cross Street
Brookvale, NSW 2100
Australia

JAPAN

MARANTZ JAPAN, INC.
3622 Kamitsuruma
Sagamihara-shi
Kanagawa, Japan

EUROPE

MARANTZ S.A.
326 Avenue Louise Bte 32
1050 Brussels
Belgium

MARANTZ AUDIO U.K. LTD.
Unit 15/16
Saxon Way Industrial Estate
Motor Lane
Harmondsworth UB7 OLW
Great Britain

MARANTZ BELGIUM
45 Rue Auguste Van Zande
1080 Brussels
Belgium

MARANTZ SVENSKA A.B.
Svartviksvangen 56
Traneberg
Box 12016
161 12 BROMMA
SWEDEN

MARANTZ GERMANY GMBH
Max-Planckstrasse 22
6072 Dreieich 1
West Germany

MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnieres
France

MARANTZ GMBH AUSTRIA
Wiedner Hauptstrasse 98
1050 WIEN
AUSTRIA

MARANTZ NORSKE A.S.
Refstadalleen 13
Oslo 5
Norway

MARANTZ DENMARK
Bregnerødvej 132b
3460 BIRKERØD
DENMARK

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please contact the nearest facility for the necessary assistance.

marantz®

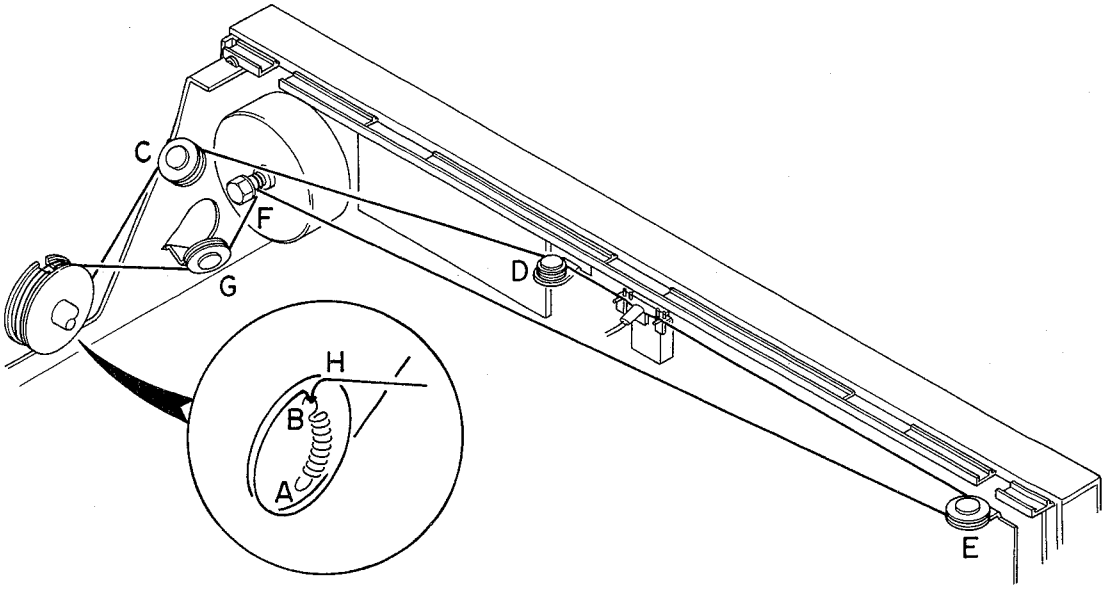


Figure 1. Dial Stringing

SR220/SR220L TUNER P.W.B. YK129H191-0

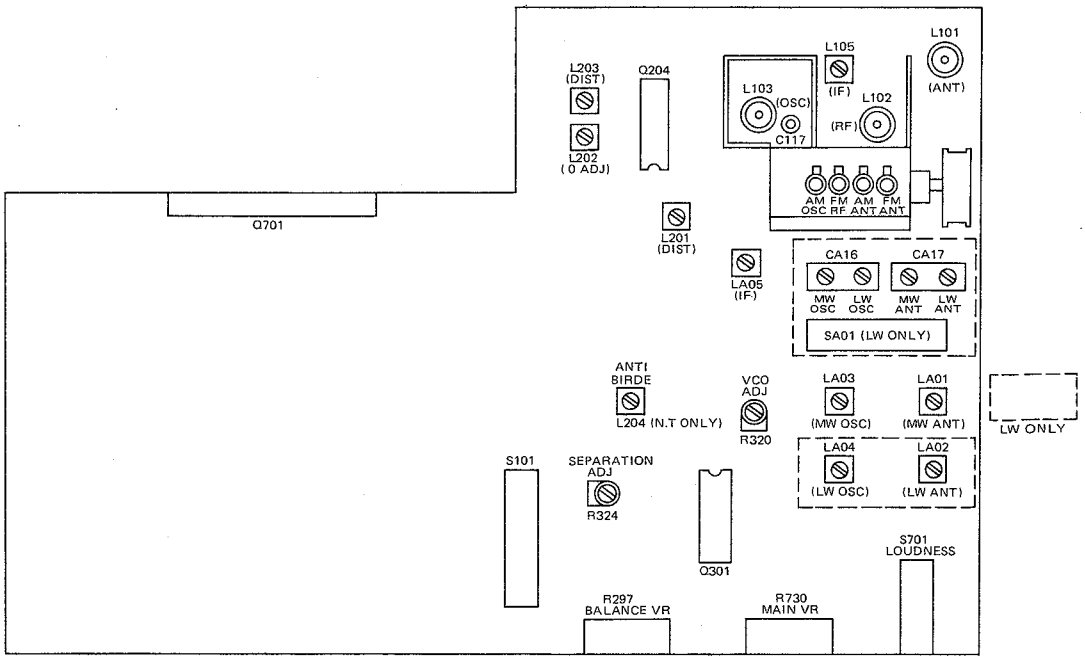


Figure 2. Adjustment Point Locations

4. ALIGNMENT PROCEDURES

A dummy resistor of 47 k-ohms must be connected across the tuner output terminals before alignment.

4.1 FM Alignment Procedures (Function switch in the "FM" position)

FM RF Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set Dial Pointer to:	Adjust
1	RF generator to FM antenna terminals through matching network (300 ohms, balanced) (Maintain RF level below limit.)	87.4 MHz	VTVM to L or R channel output	Tuning capacitor minimum closed.	L103 for maximum output.
2		108.2 MHz		Tuning capacitor maximum open.	C117 for maximum output.
3		90 MHz		90 MHz	L101, L102 for maximum output.
4		106 MHz		106 MHz	ANT. RF. TRIM. CAP. for maximum output.
5	Repeat steps 1 to 4.				
6	Check overall response curve and repeat above steps as necessary to obtain maximum sensitivity.				
7	No connection.	No signal.	"0" center meter or DC current meter in 100 μA range between J212 and J213.		L202 primary core so that the meter indicates its center or may read "0". (BLK core)
8	RF generator 1 mV (or 300 μV, only Step 10) output to FM antenna terminals through matching network. (300 ohms, balanced)	98 MHz	Distortion meter to L or R channel output.	98 MHz	L203 Secondary core for minimum distortion. (WHI)

4.2 Multiplex Alignment Procedures (Function switch in the "FM" position/Mode switch in the "STEREO" position)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set Dial Pointer to:	Adjust
1	RF generator to FM antenna terminals through matching network. (300 ohms, balanced), with 1 mV FM stereo simulator RF level and 100% modulation (pilot 9%)	No Modulation.	Frequency counter to J310.	98 MHz	R320 so that Frequency counter may precisely read 76 kHz.
2		Stereo, left (1,000 Hz)	VTVM to right channel output.		R324 for maximum output and same separation in both channels.
3		Stereo, right (1,000 Hz)	VTVM to left channel output.		

4.3 AM Alignment Procedures (Function switch in the "AM" position)

1. AM IF Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set Dial Pointer to:	Adjust
1	Sweep generator to OSC Variable Cap.	450 kHz marker.	Oscilloscope to T.P.	Quiet point on band.	LA05 & L201 for maximum and symmetric response.

2. AM RF Alignment (MW)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set Dial Pointer to:	Adjust
1	Apply the signal to the AM loop antenna from the RF generator, using the test loop, as per the Figure 3.	520 kHz	VTVM to L or R channel output.	Tuning capacitor minimum closed.	LA03 for maximum output.
2		1,630 kHz		Tuning capacitor maximum open.	OSC. TRIM. CAP. for maximum output.
3		600 kHz		600 kHz	LA01 for maximum output.
4		1,400 kHz		1,400 kHz	ANT. TRIM. CAP. for maximum output.
5	Repeat steps 1 to 4 as necessary to obtain maximum sensitivity.				

3. AM RF Alignment (LW) SR220L only

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set Dial Pointer to:	Adjust
1	Apply the signal to the AM loop antenna from the RF generator, using the test loop, as per the Figure 3.	145 kHz	VTVM to L or R channel output.	Tuning capacitor minimum closed.	LA04 for maximum output.
2		380 kHz		Tuning capacitor maximum open.	OSC. TRIM. CAP. (CA16) for maximum output.
3		170 kHz		170 kHz	LA02 for maximum output.
4		350 kHz		350 kHz	ANT. TRIM. CAP' (CA17) for maximum output.
5	Repeat steps 1 to 4 as necessary to obtain maximum sensitivity.				

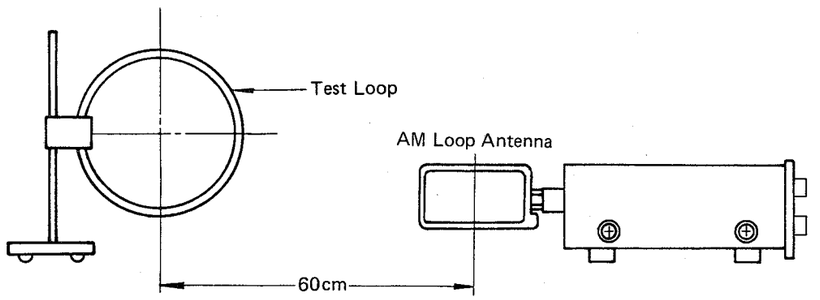
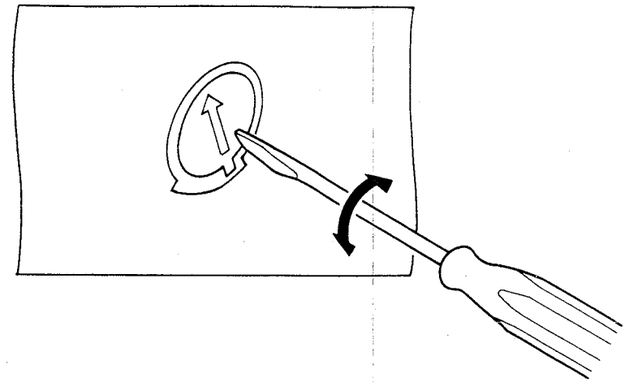


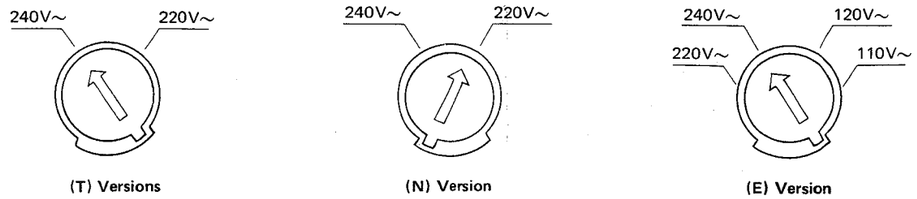
Figure 3. Application of AM Signal

5. VOLTAGE CONVERSION

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE. DO NOT DISASSEMBLE THE VOLTAGE SELECTOR ABSOLUTELY.





(T) Versions (N) Version (E) Version

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

FTZ REGULATION

Instruction for the use in the range other than specified in FTZ codes.

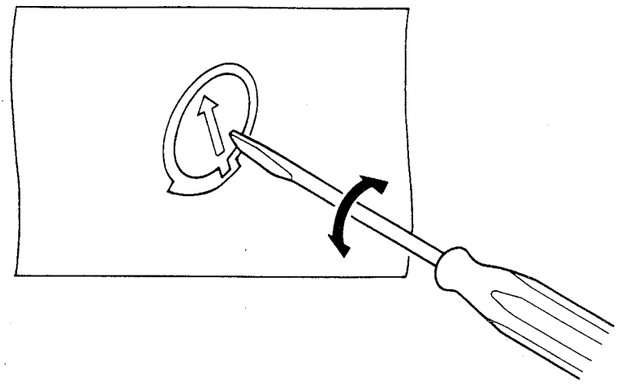
Achtung für die Leute, die in dem Gebiet wohnen, wo die FTZ-Bestimmungen vorherschend sind.

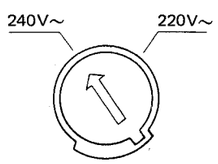
Sollte das Gerät auch für Frequenzen auszerhalb des in den FTZ-Bestimmungen angegebenen Bereiches empfangebereit sein, bitten wir, den Bereich durch Nachstellen des Kernes in der Oszillatorspule (in der Abbildung mit "FTZ" gekennzeichnet) so zu korrigieren, dass er den Bestimmungen entspricht.

5. VOLTAGE CONVERSION

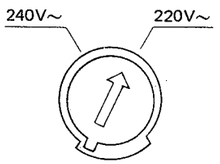
To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE. DO NOT DISASSEMBLE THE VOLTAGE SELECTOR ABSOLUTELY.

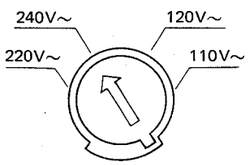




(T) Versions



(N) Version



(E) Version

NOTE ON SAFETY:

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

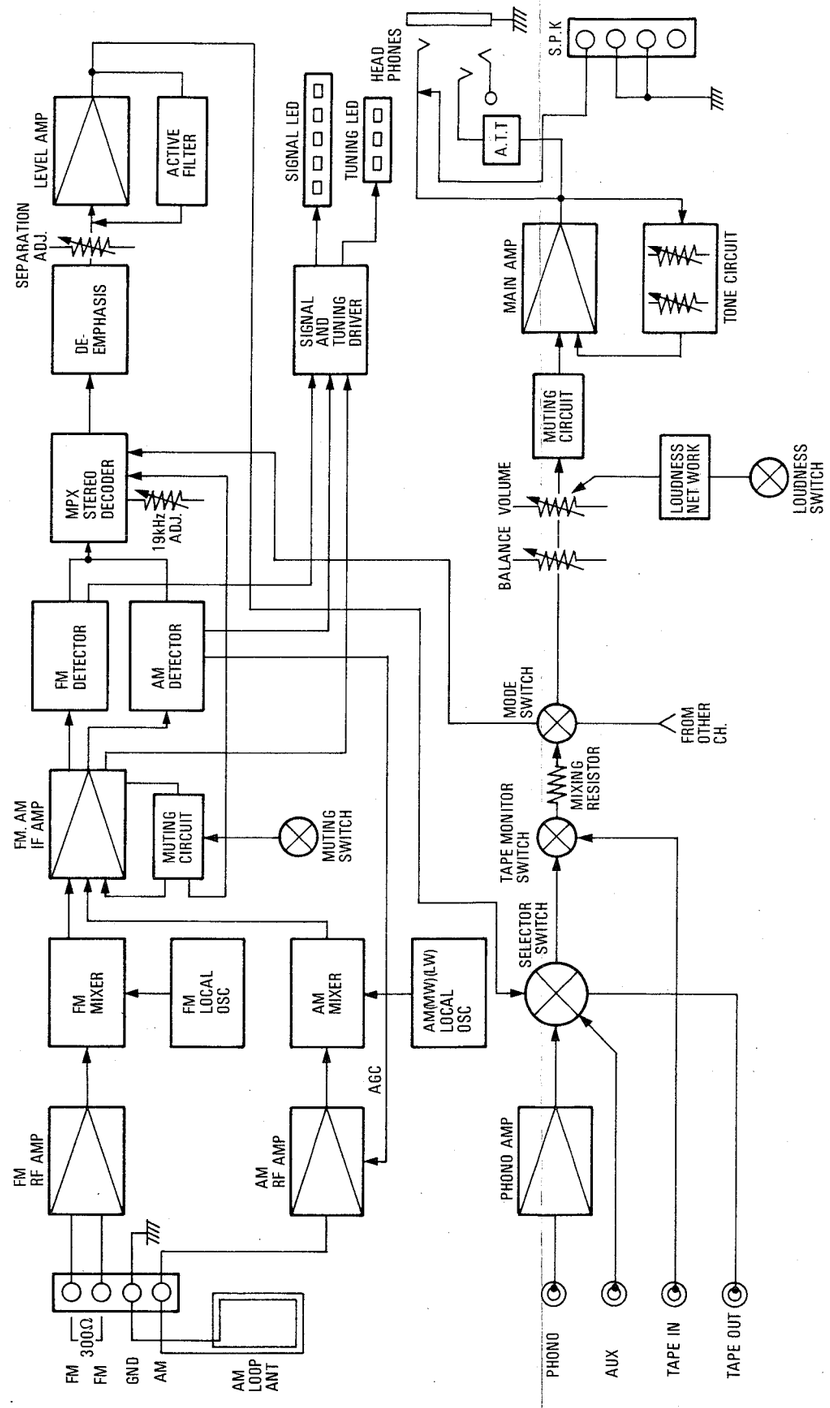
FTZ REGULATION

Instruction for the use in the range other than specified in FTZ codes.

Achtung für die Leute, die in dem Gebiet wohnen, wo die FTZ-Bestimmungen vorherschend sind.

Sollte das Gerät auch für Frequenzen auszerhalb des in den FTZ-Bestimmungen angegebenen Bereiches empfangebereit sein, bitten wir, den Bereich durch Nachstellen des Kernes in der Oszillatorspule (in der Abbildung mit "FTZ" gekennzeichnet) so zu korrigieren, dass er den Bestimmungen entspricht.

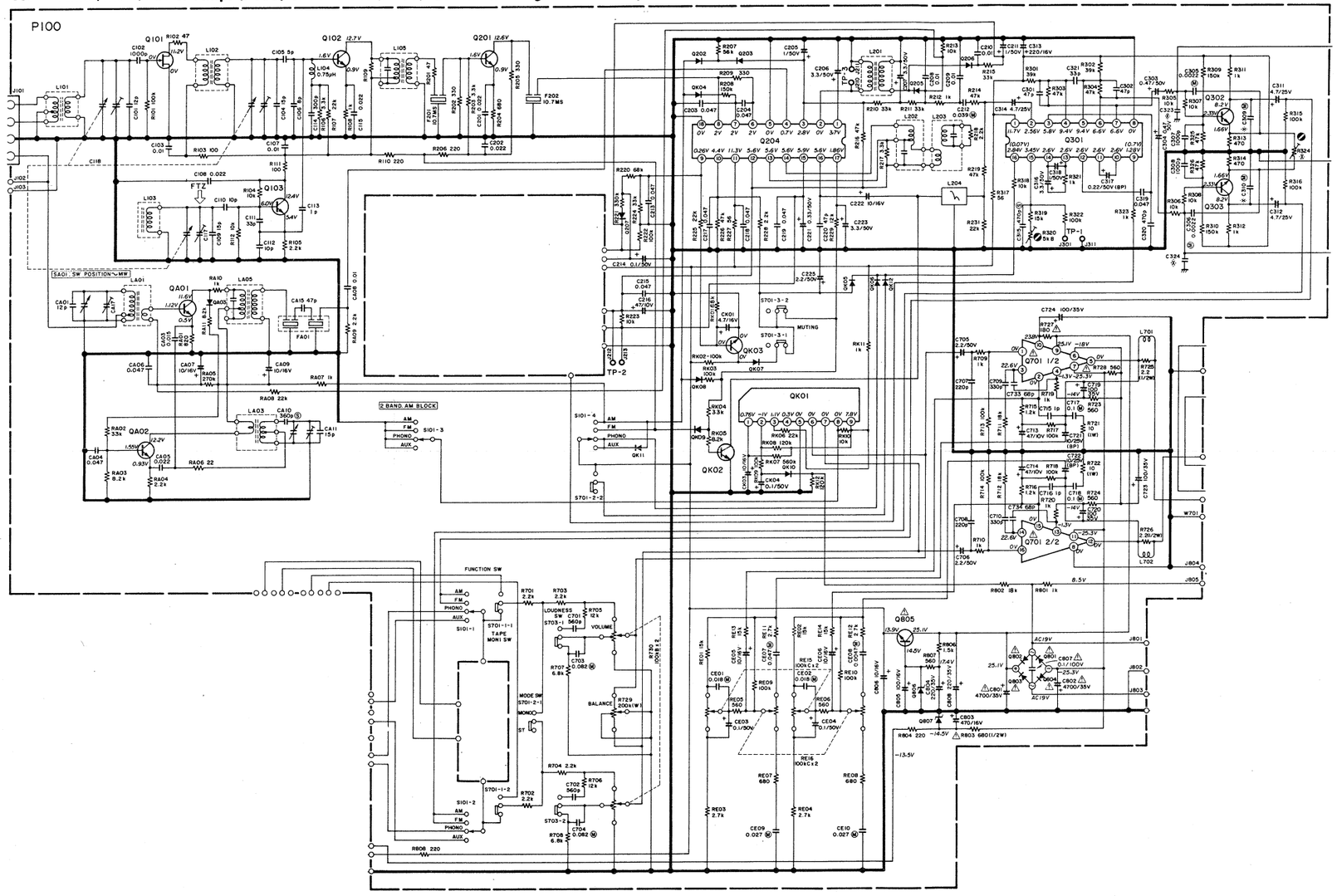
6. BLOCK DIAGRAM

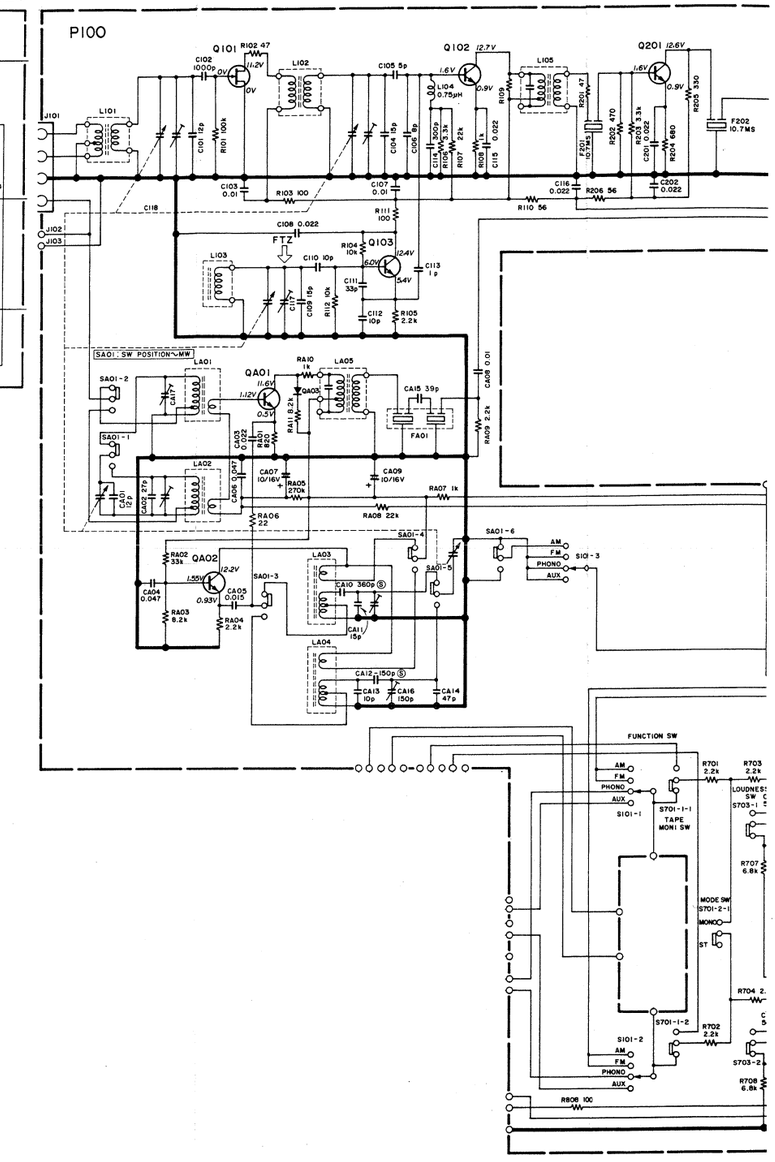


7. DIAGRAM AND COMPONENT LOCATIONS

7.1 Tuner/Main/Power Amp. (P100) & Tone VR (PE00) Schematic Diagram and Component Locations

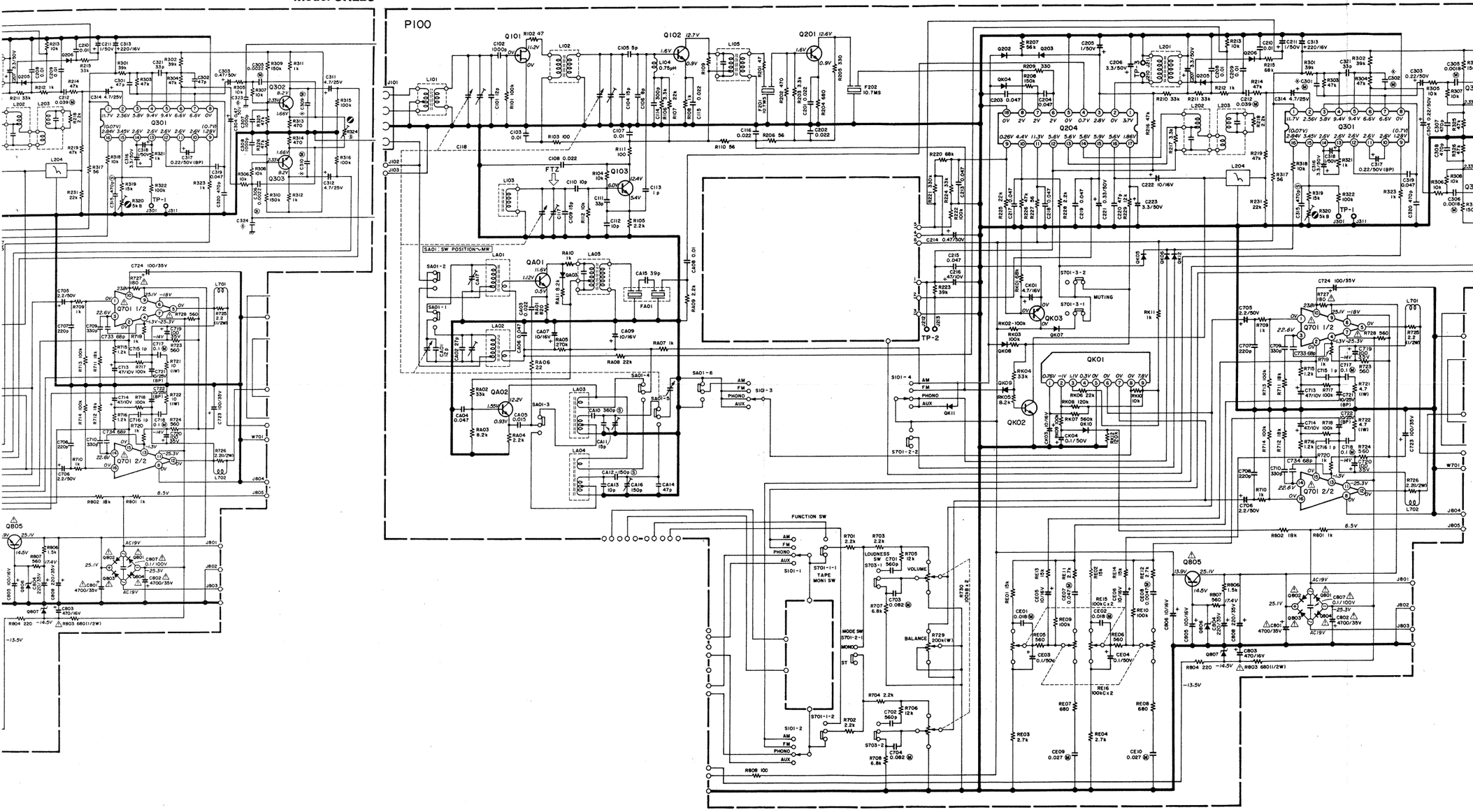
Model SR220





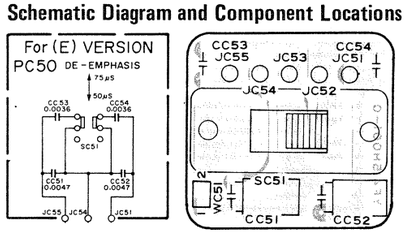
Model SR220

Model SR220L



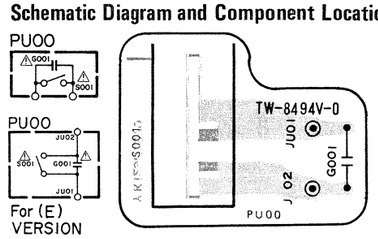
7.2 DE-Emphasis Switch (PC50)

Schematic Diagram and Component Locations



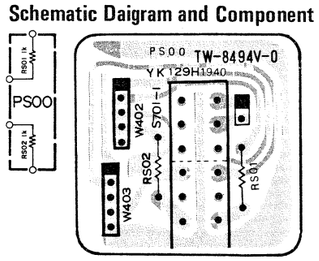
7.3 Power Switch (PU00)

Schematic Diagram and Component Locations



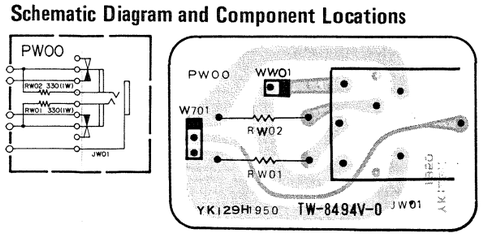
7.4 Tape Monitor Switch (PS00)

Schematic Daigram and Component Locations

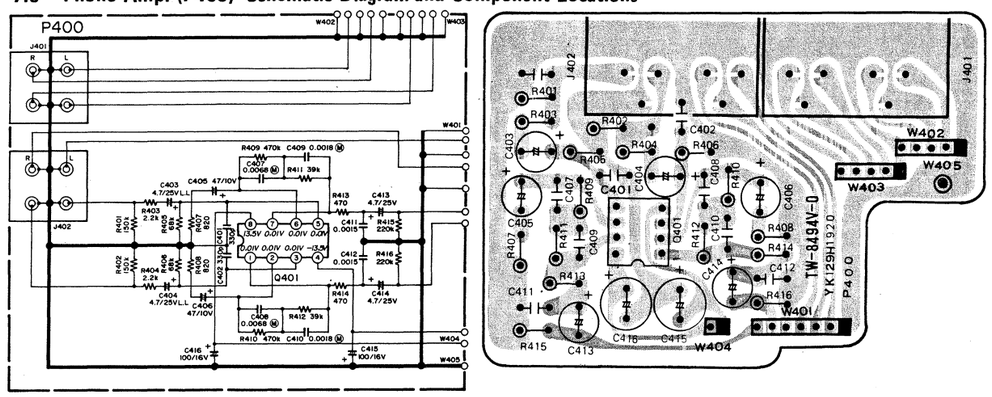


7.5 Head Phone (PW00)

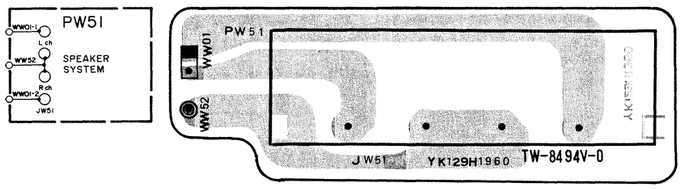
Schematic Diagram and Component Locations



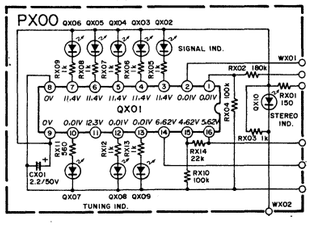
7.6 Phono Amp. (P400) Schematic Diagram and Component Locations

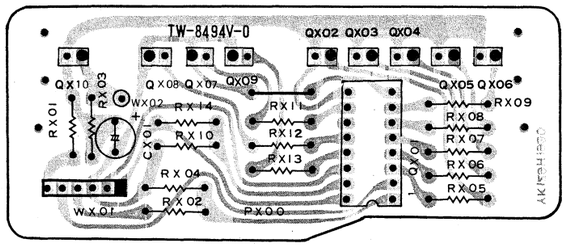


7.7 Speaker Terminal (PW51) Schematic Diagram and Component Locations



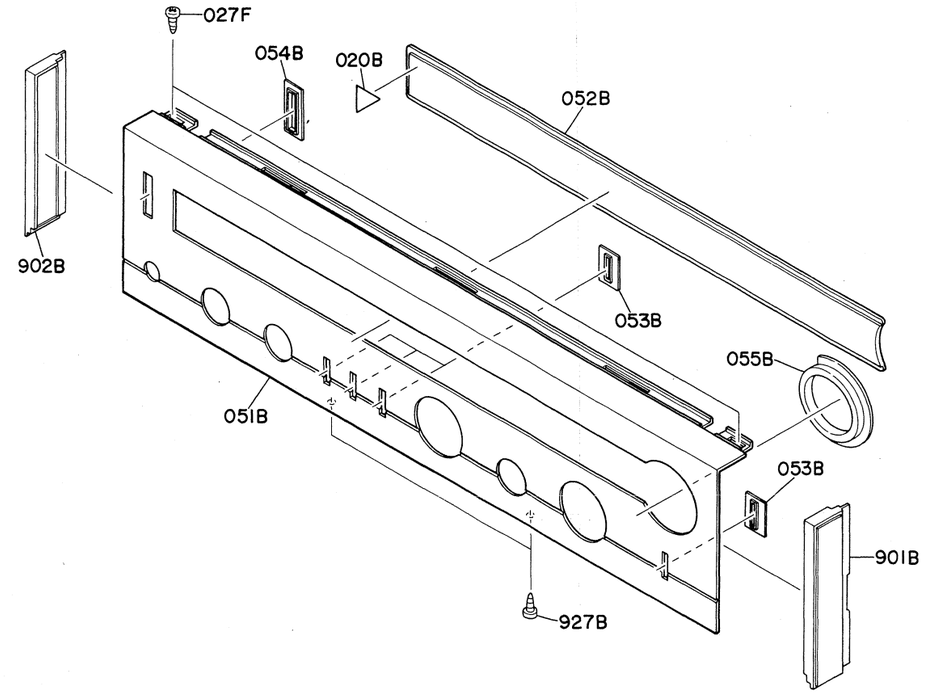
7.8 L.E.D. Meter (PX00) Schematic Diagram and Component Locations





8. EXPLODED VIEWS AND PARTS LIST

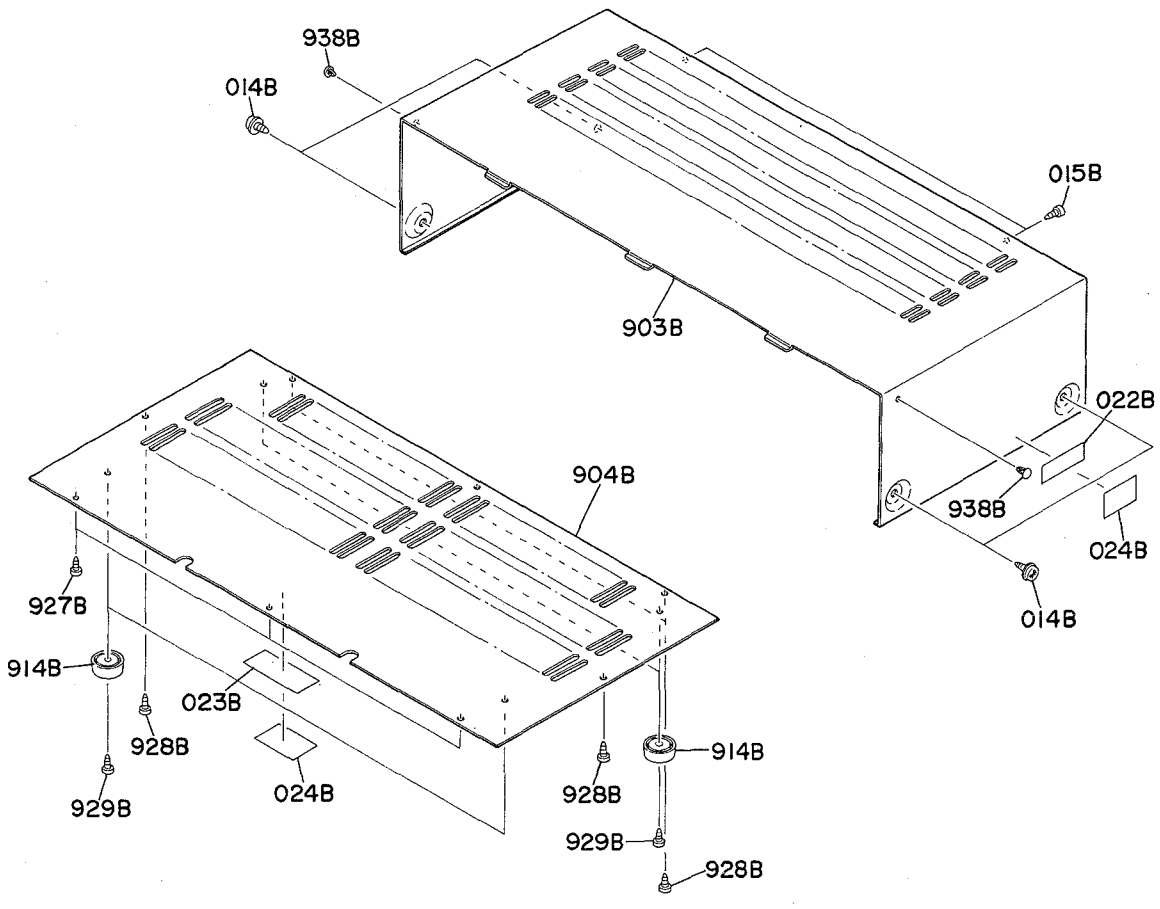
[C01-99] Front Panel



REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
							(SR220, ONLY)
A	1					129H063400	Front Panel Assembly
A1		1	1	1	1	129H063410	Front Panel Assembly
051B	1					117S063050	Escutcheon Front Panel GOLD 3
051B		1	1	1	1	117S063010	Escutcheon Front Panel GOLD 2
052B	1	1	1	1	1	117H158010	Window
053B	4	4	4	4	4	208H259010	Bushing Push SW.
054B	1	1	1	1	1	114H259220	Bushing Power SW.
055B	1	1	1	1	1	117H353010	Ring Tuning Knob
901B	1	1	1	1	1	117H067010	Cap (Right)
902B	1	1	1	1	1	117H067020	Cap (Left)

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
							(SR220L, ONLY)
A			1			130H063400	Front Panel Assembly
051B			1			117S063020	Escutcheon Front Panel
052B			1			117H158010	Window
053B			4			208H259010	Bushing Push SW.
054B			1			114H259220	Bushing Power SW.
055B			1			117H353010	Ring Tuning Knob
901B			1			117H067010	Cap (Right)
902B			1			117H067020	Cap (Left)
							(SR220/SR220L)
020B		1				105H861010	Label
927B	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
027F	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8

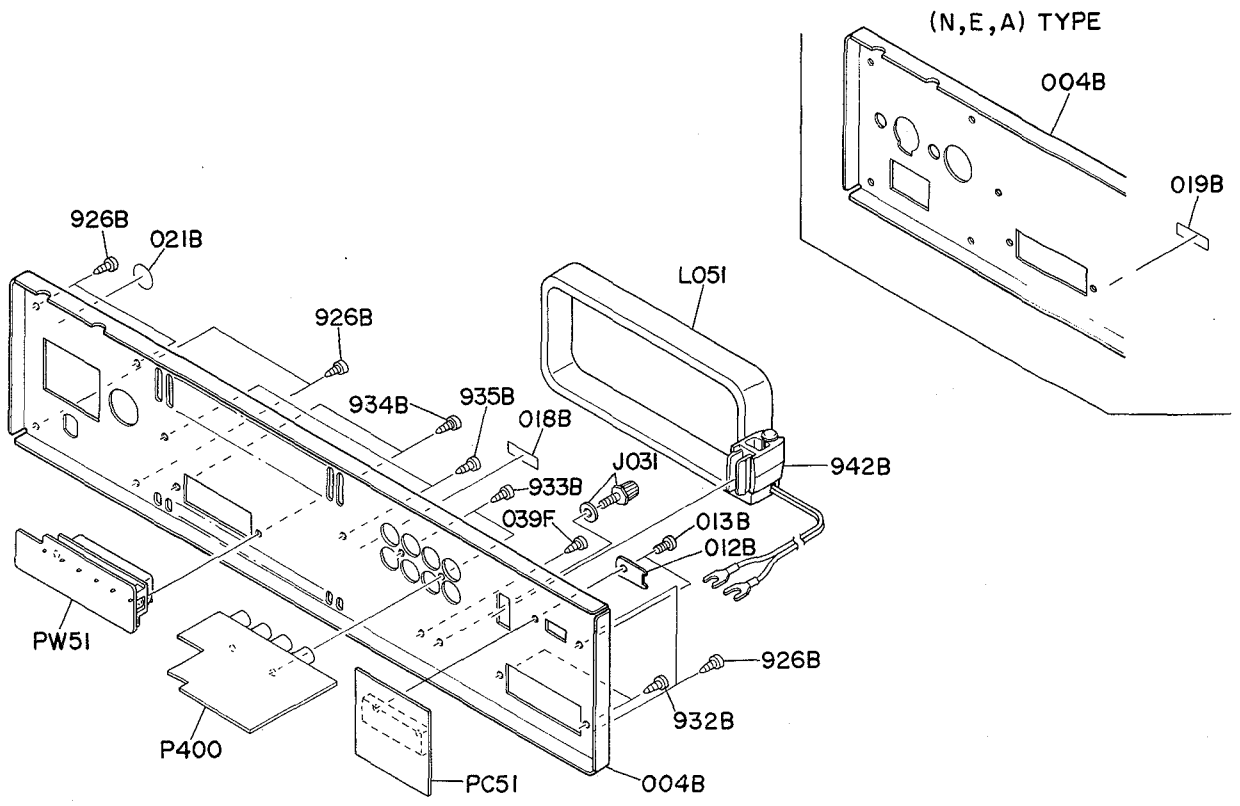
[C02-99] Top Cover



REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION	
014B	4	4				51260408Z0	B.T. Screw	B4 x 8
014B			4	4	4	51260408U0	B.T. Screw	B4 x 8
015B	2	2				51280308Z0	B.H. Tapped Screw	B3 x 8
015B			2	2	2	51280308U0	B.H. Tapped Screw	B3 x 8
022B			1	1	1	2932861110	Label, Caution	
023B			1	1	1	2578861010	Label, Caution	
024B	2	2				117H861010	Label, Caution	
903B	1	1	1	1	1	117H257010	Lid, Top Cover	
904B	1	1	1	1	1	117H257020	Lid, Bottom Cover	
914B	4	4	4	4	4	416H057010	Leg	

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION	
927B	3	3	3	3	3	51280308B0	B.H. Tapped Screw	B3 x 8
928B	5	5	5	5	5	51280308B0	B.H. Tapped Screw	B3 x 8
929B	4	4	4	4	4	51280306B0	B.H. Tapped Screw	B3 x 6
938B	2	2	2	2	2	2991259110	Bushing	

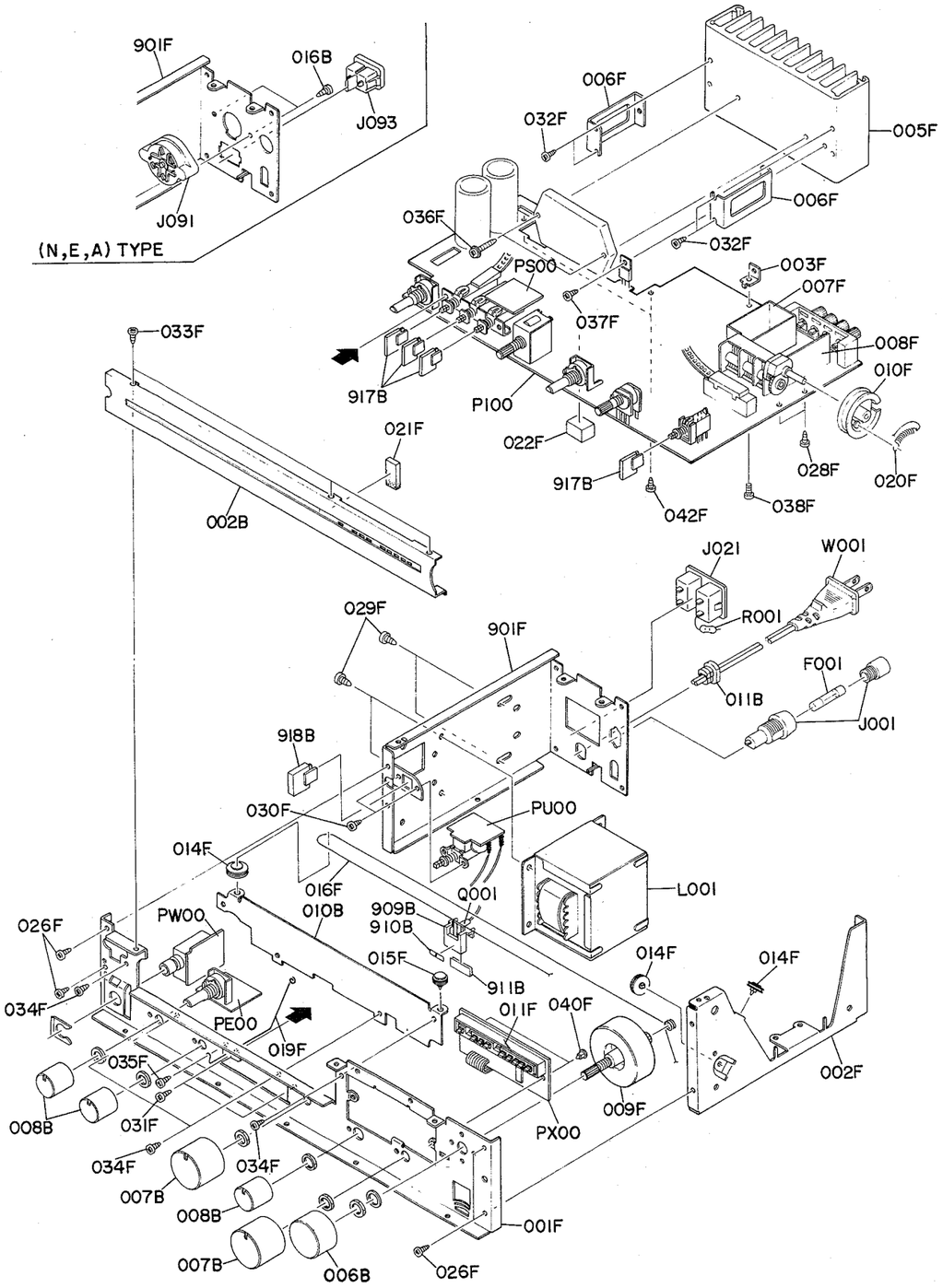
[C03-99] Rear Panel



REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
004B	1	1				129H160020	Bracket, Rear Panel
004B			1	1		117S160030	Bracket, Rear Panel (SR220)
004B					1	129H160030	Bracket, Rear Panel
004B			1			117S160330	Bracket, Rear Panel (SR220L)
018B	1	1	1	1	1	2112265010	Indicator, Serial No.
019B			1	1	1	4581861010	*Label, Made In Japan*
021B	1	1				2457861040	Label, CSA
926B	6	6	6	6	6	51280308B0	B.H. Tapped Screw B3 x 8
932B	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
933B	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
934B	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
935B	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
942B	1	1	1	1	1	408H271010	Holder, Antenna

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
039F	1	1	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
J031	1	1	1	1	1	YL03010250	Terminal, GND
L051	1	1	1	1	1	LA00015020	Antenna, Loop
012B					1	2137114010	Stopper
013B					2	51100306A9	B.H.M. Screw B3 x 6

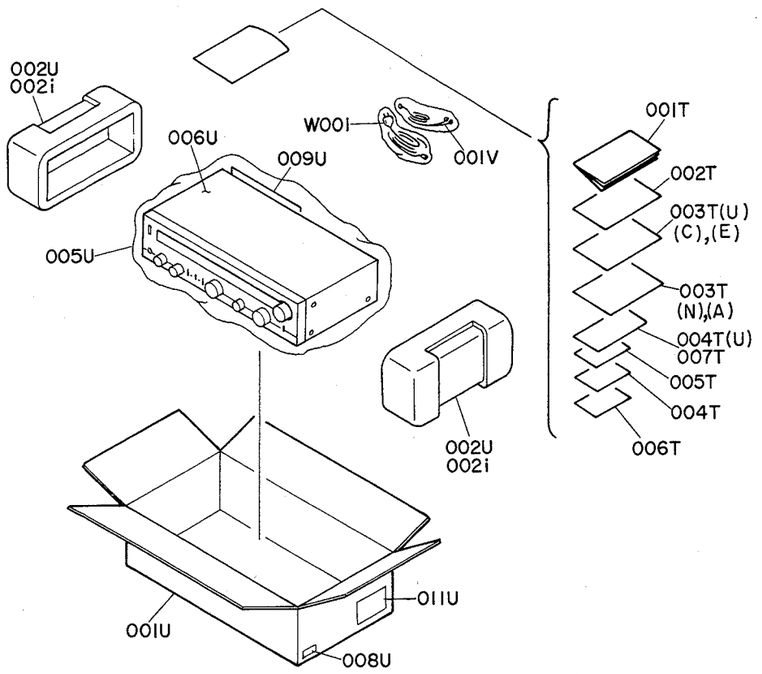
[P01-99] Front Chassis and General Parts



REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
002B	1					129H302030	Dial
002B		1	1	1	1	129H302010	Dial (SR220)
002B			1			129H302020	Dial (SR220L)
006B	1					403H154200	Knob, Tuning
006B		1				403H154120	Knob, Tuning
006B			1	1	1	403H154020	Knob, Tuning
007B	2					208H154300	Knob, Function/Volume
007B		2				208H154110	Knob, Function/Volume
007B			2	2	2	208H154010	Knob, Function/Volume
008B	3					117H154030	Knob
008B		3				117H154010	Knob
008B			3	3	3	117H054020	Knob
010B	1					117H051030	Guide, Dial
010B		1	1	1	1	117H051010	Guide, Dial
011B	1	1				1455259030	Bushing, AC Cord
016B			2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
909B	1	1	1	1	1	417H103010	Pointer
910B	1	1	1	1	1	117H303010	Mask
911B	1	1	1	1	1	417H118010	Spacer
917B	4	4	4	4	4	226H154140	Knob, Push Switch
918B	1	1	1	1	1	226H154130	Knob, Power Switch
001F	1	1	1	1	1	117S160010	Bracket, Front Chassis
002F	1	1	1	1	1	117H160040	Bracket, Right
003F	1	1	1	1	1	207T160080	Bracket, Main P.W. Board
005F	1	1	1	1	1	117S267010	Heatsink
006F	2	2	2	2	2	117H160050	Bracket
007F	1	1	1	1	1	117H109010	Shield
008F	1	1	1	1	1	117H109020	Shield
009F	1	1	1	1	1	117H273010	Flywheel
010F	1	1	1	1	1	117H159010	Drum
011F	1	1	1	1	1	117H051020	Guide, L.E.D.
014F	3	3	3	3	3	2259262500	Pulley
015F	1	1	1	1	1	2259262520	Pulley
016F	1	1	1	1	1	72040805A0	String, (130)
019F	1	1	1	1	1	117H115020	Spring
020F	1	1	1	1	1	2112115020	Spring
021F	1	1	1	1	1	117H056010	Buffer
022F	1	1	1	1	1	2255056020	Buffer
026F	4	4	4	4	4	51280308B0	B.H. Tapped Screw B3 x 8
028F	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
029F	4	4	4	4	4	51280408B0	B.H. Tapped Screw B4 x 8
030F	2	2	2	2	2	51100308A9	B.H.M. Screw B3 x 8
031F	2	2	2	2	2	51100308A9	B.H.M. Screw B3 x 8
032F	4	4	4	4	4	51280308B0	B.H. Tapped Screw B3 x 8
033F	3	3	3	3	3	51280308B0	B.H. Tapped Screw B3 x 8
034F	4	4	4	4	4	51280308B0	B.H. Tapped Screw B3 x 8
035F	1	1	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
036F	2	2	2	2	2	51260315B0	B.T. Screw B3 x 15
037F	1	1	1	1	1	51260308B0	B.T. Screw B3 x 8
038F	1	1	1	1	1	51460306A9	L. Washer Screw L3 x 6
040F	2	2	2	2	2	2912259020	Bushing
042F	2	2	2	2	2	51260308B0	B.T. Screw B3 x 8
901F	1	1				117S160070	Bracket, Transformer
901F			1	1		117H160080	Bracket, Transformer
901F					1	117H160110	Bracket, Transformer

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
⚠ F001	1	1				FS10200500	Fuse 2A 250V
⚠ F001			1	1	1	FS10080800	Fuse T800mA 250V
⚠ J001	1	1				YJ08000300	Jack, Fuse Holder
⚠ J001			1	1	1	YJ08000290	Jack, Fuse Holder
⚠ J021	1	1				YJ04001070	Jack, AC Outlet
⚠ J091			1	1		BY05030040	Voltage Selector
⚠ J091					1	BY05080040	Voltage Selector
⚠ J093			1	1	1	YP04000580	Plug, AC Inlet
⚠ L001	1	1				TS16635010	Power Transformer
⚠ L001			1	1		TS16635030	Power Transformer
L001					1	TS16635070	Power Transformer
Q001	1	1	1	1	1	HI10033020	L.E.D., Pointer
⚠ W001	1	1				YC01900070	A.C. Power Cord
R001	1	1				RC10225920	Resistor 2.2MΩ ±10% ½W

[H01-99] Packing Materials



REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
001T	1	1				117S851210	Instructions
001T			1	1	1	117S851310	Instructions
002T	1	1				117S851220	Instructions, Spec
002T			1	1	1	117S851320	Instructions, Spec
003T	1					2818854020	Guarantee Card
003T		1				2818854040	Guarantee Card
003T			1		1	117S856010	Circuit Diagram, (SR220)
003T			1			118S856010	Circuit Diagram, (SR220L)
003T				1		9631000090	Guarantee Card
004T	1					2225813010	Envelope
004T		1				9650000050	S. Station Card
005T		1				9560000100	Hang Tag
006T		1				103H854010	Guarantee Card
007T		1				2225813010	Envelope

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
001U	1	1				129H801010	Packing Case, (SR220)
001U			1	1	1	129H801020	Packing Case
001U			1			130H801010	Packing Case, (SR220L)
002U	2	2	2			117H809010	Cushion
005U	1	1	1	1	1	9090909030	Polyethylene Sheet
006U	1	1	1	1	1	2918107360	Sheet
008U	2	2				9526019010	Serial No. Card
008U			4		4	9526019060	Serial No. Card
008U				4		9526019030	Serial No. Card
009U	1	1				2918107390	Sheet
011U	2	2				9510901020	Label
002i				2	2	117H809010	Cushion
001V	1	1	1	1	1	ZA02000070	EXT. Antenna
⚠W001			1		1	ZC01805010	A.C. Power Cord
⚠W001				1		ZC02006020	A.C. Power Cord

ELECTRICAL PARTS

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
							(SR220, ONLY)
							P100-TUNER/MAIN/POWER CIRCUIT BOARD
P100	1	1	1	1	1	YK129H1910	P.W. Board, Tuner/Main/Power
	1	1				ZZ129H1910	P.W. Board Assembly
			1	1	1	ZZ129H8910	P.W. Board Assembly
							(SR220L, ONLY)
P100			1			YK129H1910	P.W. Board, Tuner/Main/Power
			1			ZZ130H8910	P.W. Board Assembly
							P100-CAPACITORS
CA01	1	1	1	1	1	DD15150370	Ceramic 15pF ±5%
CA03	1	1	1	1	1	DK18223310	Ceramic 0.022μF +80%—20%
CA04	1	1	1	1	1	DK18473320	Ceramic 0.047μF +80%—20%
CA05	1	1	1	1	1	DK18153310	Ceramic 0.015μF +80%—20%
CA06	1	1	1	1	1	DK18473320	Ceramic 0.047μF +80%—20%
CA07	1	1	1	1	1	EA10602530	Elect 10μF 25V
CA08	1	1	1	1	1	DK18103310	Ceramic 0.01μF +80%—20%
CA09	1	1	1	1	1	EA10602530	Elect 10μF 25V
CA10	1	1	1	1	1	DF55361090	Film 360pF ±5%
CA11	1	1	1	1	1	DD15150370	Ceramic 15pF ±5%
CA15	1	1	1	1	1	DD15470370	Ceramic 47pF ±5%
							(SR220L, ONLY)
CA02			1			DD15180370	Ceramic 18pF ±5%
CA12			1			DF55151090	Film 150pF ±5%
CA13			1			DD11100370	Ceramic 10pF ±0.5pF
CA14			1			DD15470370	Ceramic 47pF ±5%
CA16			1			CT21600020	Trimming 16pF
CA17			1			CT21600020	Trimming 16pF
CE05	1	1	1	1	1	EA10602530	Elect 10μF 25V
CE06	1	1	1	1	1	EA10602530	Elect 10μF 25V
CE07	1	1	1	1	1	DF15472300	Film 4700pF ±5%
CE08	1	1	1	1	1	DF15472300	Film 4700pF ±5%
CE09	1	1	1	1	1	DF15273300	Film 0.027μF ±5%
CE10	1	1	1	1	1	DF15273300	Film 0.027μF ±5%
CK01	1	1	1	1	1	EA47503530	Elect 4.7μF 35V
CK03	1	1	1	1	1	EA33601630	Elect 33μF 16V
CK04	1	1	1	1	1	EA10405030	Elect 0.1μF 50V
C101	1	1	1	1	1	DD15120370	Ceramic 12pF ±5%
C102	1	1	1	1	1	DK16102300	Ceramic 1000pF ±10%
C103	1	1	1	1	1	DK18103310	Ceramic 0.01μF +80%—20%
C104	1	1	1	1	1	DD15150370	Ceramic 15pF ±5%
C105	1	1	1	1	1	DD10050370	Ceramic 5pF ±0.25pF
C106	1	1	1	1	1	DD11080370	Ceramic 8pF ±0.5pF
C107	1	1	1	1	1	DK18103310	Ceramic 0.01μF +80%—20%
C108	1	1	1	1	1	DK18223310	Ceramic 0.022μF +80%—20%
C109	1	1	1	1	1	DD15150340	Ceramic 15pF ±5%
C110	1	1	1	1	1	DD11100300	Ceramic 10pF ±0.5pF
C111	1	1	1	1	1	DD15330300	Ceramic 33pF ±5%
C112	1	1	1	1	1	DD11100300	Ceramic 10pF ±0.5pF
C113	1	1	1	1	1	DD10010300	Ceramic 1pF ±0.25pF
C114	1	1	1	1	1	DD15301360	Ceramic 300pF ±5%
C115	1	1	1	1	1	DK18223310	Ceramic 0.022μF +80%—20%
C117	1	1	1	1	1	CT11000150	Triming 10pF
C118	1	1	1	1	1	CA32400130	Variable, (CR52J) (SR220)
C118			1			CA32200090	Variable, (CR52J) (SR220L)
C201	1	1	1	1	1	DK18223310	Ceramic 0.022μF +80%—20%
C202	1	1	1	1	1	DK18223310	Ceramic 0.022μF +80%—20%
C203	1	1	1	1	1	DK18473320	Ceramic 0.047μF +80%—20%
C204	1	1	1	1	1	DK18473320	Ceramic 0.047μF +80%—20%
C205	1	1	1	1	1	EA10505030	Elect 1μF 50V
C206	1	1	1	1	1	EA33505030	Elect 3.3μF 50V
C207	1	1	1	1	1	EA33505030	Elect 3.3μF 50V

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
C208	1	1	1	1	1	DK18103310	Ceramic 0.01μF +80%—20%
C209	1	1	1	1	1	DK18103310	Ceramic 0.01μF +80%—20%
C210	1	1	1	1	1	DK18103310	Ceramic 0.01μF +80%—20%
C211	1	1	1	1	1	EA10505030	Elect 1μF 50V
C212	1	1	1	1	1	DF17393300	Film 0.039μF ±20%
C213	1	1	1	1	1	DK18473320	Ceramic 0.047μF +80%—20%
C214	1	1	1	1	1	EA10405030	Elect 0.1μF 50V
C215	1	1	1	1	1	DK18473320	Ceramic 0.047μF +80%—20%
C216	1	1	1	1	1	EA47601030	Elect 47μF 10V
C217	1	1	1	1	1	DK18473320	Ceramic 0.047μF +80%—20%
C218	1	1	1	1	1	DK18473320	Ceramic 0.047μF +80%—20%
C219	1	1	1	1	1	DK18473320	Ceramic 0.047μF +80%—20%
C220	1	1	1	1	1	DD15470370	Ceramic 47pF ±5%
C221	1	1	1	1	1	EA33405030	Elect 0.33μF 50V
C222	1	1	1	1	1	EA10602530	Elect 10μF 25V
C223	1	1	1	1	1	EA33505030	Elect 3.3μF 50V
C225	1	1	1	1	1	EA22505030	Elect 2.2μF 50V
C301	1	1	1	1	1	DF15470370	Film 47pF ±5%
C302	1	1	1	1	1	DF15470370	Film 47pF ±5%
C303	1	1	1	1	1	EA47405030	Elect 0.47μF 50V
C304	1	1	1	1	1	EA47405030	Elect 0.47μF 50V
C305	1	1	1	1	1	DF15222300	Film 2200pF ±5%
C306	1	1	1	1	1	DF15222300	Film 2200pF ±5%
C307	1	1	1	1	1	DF15102300	Film 1000pF ±5%
C308	1	1	1	1	1	DF15102300	Film 1000pF ±5%
C311	1	1	1	1	1	EA47503530	Elect 4.7μF 35V
C312	1	1	1	1	1	EA47503530	Elect 4.7μF 35V
C313	1	1	1	1	1	EA22701630	Elect 220μF 16V
C314	1	1	1	1	1	EA47503530	Elect 4.7μF 35V
C315	1	1	1	1	1	DF55471090	Film 470pF ±5%
C316	1	1	1	1	1	EA33505030	Elect 3.3μF 50V
C317	1	1	1	1	1	EQ22405030	Elect 0.22μF 50V
C318	1	1	1	1	1	EA10505030	Elect 1μF 50V
C319	1	1	1	1	1	DF15473300	Film 0.047μF ±5%
C320	1	1	1	1	1	DK16471300	Ceramic 470pF ±10%
C323	1	1				DF15822300	Film 8200pF ±5%
C323			1	1	1	DF15472300	Film 4700pF ±5%
C324	1	1				DF15822300	Film 8200pF ±5%
C324			1	1	1	DF15472300	Film 4700pF ±5%
C701	1	1	1	1	1	DD15561370	Ceramic 560pF ±5%
C702	1	1	1	1	1	DD15561370	Ceramic 560pF ±5%
C703	1	1	1	1	1	DF15473300	Film 0.047μF ±5%
C704	1	1	1	1	1	DF15473300	Film 0.047μF ±5%
C705	1	1	1	1	1	EE22505030	Elect 2.2μF 50V
C706	1	1	1	1	1	EE22505030	Elect 2.2μF 50V
C707	1	1	1	1	1	DD15221370	Ceramic 220pF ±5%
C708	1	1	1	1	1	DD15221370	Ceramic 220pF ±5%
C709	1	1	1	1	1	DD15331370	Ceramic 330pF ±5%
C710	1	1	1	1	1	DD15331370	Ceramic 330pF ±5%
C713	1	1	1	1	1	EA47601030	Elect 47μF 10V
C714	1	1	1	1	1	EA47601030	Elect 47μF 10V
C715	1	1	1	1	1	DD10010370	Ceramic 1pF ±0.25pF
C716	1	1	1	1	1	DD10010370	Ceramic 1pF ±0.25pF
C717	1	1	1	1	1	DF17104350	Film 0.1μF ±20%
C718	1	1	1	1	1	DF17104350	Film 0.1μF ±20%
C719	1	1	1	1	1	EA10703530	Elect 100μF 35V
C720	1	1	1	1	1	EA10703530	Elect 100μF 35V

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
C721	1	1	1	1	1	EQ10602530	Elect 10μF 25V
C722	1	1	1	1	1	EQ10602530	Elect 10μF 25V
C723	1	1	1	1	1	EA10703530	Elect 100μF 35V
C724	1	1	1	1	1	EA10703530	Elect 100μF 35V
C733	1	1	1	1	1	DD15686370	Ceramic 68pF ±5%
C734	1	1	1	1	1	DD15686370	Ceramic 68pF ±5%
⚠C801	1	1	1	1	1	EA47803530	Elect 4700μF 35V
⚠C802	1	1	1	1	1	EA47803530	Elect 4700μF 35V
C803	1	1	1	1	1	EA47701630	Elect 470μF 16V
C804	1	1	1	1	1	EA22703530	Elect 220μF 35V
C805	1	1	1	1	1	EA10701630	Elect 100μF 16V
C806	1	1	1	1	1	EA10602530	Elect 10μF 25V
⚠C807	1	1	1	1	1	DK18103560	Ceramic 0.01μF +80%–20%
C808	1	1	1	1	1	EA22703530	Elect 220μF 35V
							P100-RESISTORS
							(All Resistors are ±5% & ¼W)
RA01	1	1	1	1	1	GD05821140	820Ω
RA02	1	1	1	1	1	GD05333140	33KΩ
RA03	1	1	1	1	1	GD05822140	8.2KΩ
RA04	1	1	1	1	1	GD05222140	2.2KΩ
RA05	1	1	1	1	1	GD05274140	270KΩ
RA06	1	1	1	1	1	GD05220140	22Ω
RA07	1	1	1	1	1	GD05102140	1KΩ
RA08	1	1	1	1	1	GD05223140	22KΩ
RA09	1	1	1	1	1	GD05222140	2.2KΩ
RA10	1	1	1	1	1	GD05102140	1KΩ
RA11	1	1	1	1	1	GD05682140	6.8KΩ
RK01	1	1	1	1	1	GD05683140	68KΩ
RK02	1	1	1	1	1	GD05104140	100KΩ
RK03	1	1	1	1	1	GD05104140	100KΩ
RK04	1	1	1	1	1	GD05333140	33KΩ
RK05	1	1	1	1	1	GD05822140	8.2KΩ
RK06	1	1	1	1	1	GD05223140	22KΩ
RK07	1	1	1	1	1	GD05564140	560KΩ
RK08	1	1	1	1	1	GD05124140	120KΩ
RK09	1	1	1	1	1	GD05104140	100KΩ
RK10	1	1	1	1	1	GD05103140	10KΩ
RK11	1	1	1	1	1	GD05102140	1KΩ
RK12	1	1	1	1	1	GD05124140	120KΩ
R101	1	1	1	1	1	GD05104140	100KΩ
R102	1	1	1	1	1	GD05470140	47Ω
R103	1	1	1	1	1	GD05101140	100Ω
R104	1	1	1	1	1	GD05103140	10KΩ
R105	1	1	1	1	1	GD05222140	2.2KΩ
R106	1	1	1	1	1	GD05332140	3.3KΩ
R107	1	1	1	1	1	GD05223140	22KΩ
R108	1	1	1	1	1	GD05102140	1KΩ
R110	1	1	1	1	1	GD05221140	220Ω
R111	1	1	1	1	1	GD05101140	100Ω
R112	1	1	1	1	1	GD05103140	10KΩ
R201	1	1	1	1	1	GD05470140	47Ω
R202	1	1	1	1	1	GD05331140	330Ω
R203	1	1	1	1	1	GD05332140	3.3KΩ
R204	1	1	1	1	1	GD05681140	680Ω
R205	1	1	1	1	1	GD05331140	330Ω
R206	1	1	1	1	1	GD05221140	220Ω
R207	1	1	1	1	1	GD05563140	56KΩ
R208	1	1	1	1	1	GD05154140	150KΩ
R209	1	1	1	1	1	GD05331140	330Ω
R210	1	1	1	1	1	GD05333140	33KΩ

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
R211	1	1	1	1	1	GD05333140	33KΩ
R212	1	1	1	1	1	GD05102140	1KΩ
R213	1	1	1	1	1	GD05103140	10KΩ
R214	1	1	1	1	1	GD05273140	27KΩ
R215	1	1	1	1	1	GD05333140	33KΩ
R216	1	1	1	1	1	GD05473140	47KΩ
R217	1	1	1	1	1	GD05332140	3.3KΩ
R218	1	1	1	1	1	GD05222140	2.2KΩ
R219	1	1	1	1	1	GD05473140	47KΩ
R220	1	1	1	1	1	GD05104140	100KΩ
R221	1	1	1	1	1	GD05334140	330KΩ
R222	1	1	1	1	1	GD05104140	100KΩ
R223	1	1	1	1	1	GD05103140	10KΩ
R224	1	1	1	1	1	GD05333140	33KΩ
R225	1	1	1	1	1	GD05223140	22KΩ
R226	1	1	1	1	1	GD05473140	47KΩ
R227	1	1				GG05560140	56Ω
R227			1	1	1	RF05560140	56Ω, Fusible
R228	1	1	1	1	1	GD05222140	2.2KΩ
R229	1	1	1	1	1	GD05123140	12KΩ
R231	1	1	1	1	1	GD05223140	22KΩ
R232	1	1	1	1	1	GD05331140	330Ω
R301	1	1	1	1	1	GD05393140	39KΩ
R302	1	1	1	1	1	GD05393140	39KΩ
R303	1	1	1	1	1	GD05473140	47KΩ
R304	1	1	1	1	1	GD05473140	47KΩ
R305	1	1	1	1	1	GD05103140	10KΩ
R306	1	1	1	1	1	GD05103140	10KΩ
R307	1	1	1	1	1	GD05103140	10KΩ
R308	1	1	1	1	1	GD05103140	10KΩ
R309	1	1	1	1	1	GD05154140	150KΩ
R310	1	1	1	1	1	GD05154140	150KΩ
R311	1	1	1	1	1	GD05102140	1KΩ
R312	1	1	1	1	1	GD05102140	1KΩ
R313	1	1	1	1	1	GD05471140	470Ω
R314	1	1	1	1	1	GD05471140	470Ω
R315	1	1	1	1	1	GD05104140	100KΩ
R316	1	1	1	1	1	GD05104140	100KΩ
R317	1	1				GG05560140	56Ω
R317			1	1	1	RF05560140	56Ω, Fusible
R318	1	1	1	1	1	GD05103140	10KΩ
R319	1	1	1	1	1	GD05153140	15KΩ
R320	1	1	1	1	1	RA05020800	5KΩ(B), Trimming
R321	1	1	1	1	1	GD05102140	1KΩ
R322	1	1	1	1	1	GD05474140	470KΩ
R323	1	1	1	1	1	GD05102140	1KΩ
R324	1	1				RA01030800	10KΩ(B), Trimming
R324			1	1	1	RA05020800	5KΩ(B), Trimming
R325	1	1	1	1	1	GD05473140	47KΩ
R326	1	1	1	1	1	GD05473140	47KΩ
R701	1	1	1	1	1	GD05222140	2.2KΩ
R702	1	1	1	1	1	GD05222140	2.2KΩ
R703	1	1	1	1	1	GD05222140	2.2KΩ
R704	1	1	1	1	1	GD05222140	2.2KΩ
R705	1	1	1	1	1	GD05123140	12KΩ

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
R706	1	1	1	1	1	GD05123140	12KΩ
R707	1	1	1	1	1	GD05103140	10KΩ
R708	1	1	1	1	1	GD05103140	10KΩ
R709	1	1	1	1	1	GD05102140	1KΩ
R710	1	1	1	1	1	GD05102140	1KΩ
R711	1	1	1	1	1	GD05183140	18KΩ
R712	1	1	1	1	1	GD05183140	18KΩ
R713	1	1	1	1	1	GD05104140	100KΩ
R714	1	1	1	1	1	GD05104140	100KΩ
R715	1	1	1	1	1	GD05122140	1.2KΩ
R716	1	1	1	1	1	GD05122140	1.2KΩ
R717	1	1	1	1	1	GD05104140	100KΩ
R718	1	1	1	1	1	GD05104140	100KΩ
R719	1	1	1	1	1	GD05102140	1KΩ
R720	1	1	1	1	1	GD05102140	1KΩ
R721	1	1	1	1	1	GA05100010	10Ω 1W
R722	1	1	1	1	1	GA05100010	10Ω 1W
R723	1	1	1	1	1	GD05561140	560Ω
R724	1	1	1	1	1	GD05561140	560Ω
R725	1	1	1	1	1	RC10022120	2.2Ω ±10% ½W
R726	1	1	1	1	1	RC10022120	22Ω ±10% ½W
⚠R727	1	1				GG05101140	100Ω
⚠R727			1	1	1	RF05181140	180Ω, Fusible
⚠R728	1	1	1	1	1	GG05561140	560Ω
R729	1	1	1	1	1	RK02040190	200KΩ(W), Variable
R730	1	1	1	1	1	RM01040560	100KΩ(B), Variable
R801	1	1	1	1	1	GD05102140	1KΩ
R802	1	1	1	1	1	GD05183140	18KΩ
⚠R803	1	1	1	1	1	GG05681120	680Ω ½W
R804	1	1	1	1	1	GD05221140	220Ω
R806	1	1	1	1	1	GD05222140	2.2KΩ
R807	1	1	1	1	1	GD05561140	560Ω
R808	1	1	1	1	1	GD05221140	220Ω
RE07	1	1	1	1	1	GD05681140	680Ω
RE08	1	1	1	1	1	GD05681140	680Ω
RE09	1	1	1	1	1	GD05104140	100KΩ
RE10	1	1	1	1	1	GD05104140	100KΩ
RE11	1	1	1	1	1	GD05272140	2.7KΩ
RE12	1	1	1	1	1	GD05272140	2.7KΩ
RE13	1	1	1	1	1	GD05153140	15KΩ
RE14	1	1	1	1	1	GD05153140	15KΩ
RE16	1	1	1	1	1	RM01040630	100KΩ(C), Variable
							P100-CEMICONDUCTORS
QA01	1	1	1	1	1	HT308291C0	Transistor 2SC829(C)
QA02	1	1	1	1	1	HT308291C0	Transistor 2SC829(C)
QA03	1	1	1	1	1	HD10003020	Diode 1S188
QK01	1	1	1	1	1	HC10031020	IC AN6135
QK02	1	1	1	1	1	HT309452B0	Transistor 2SC945(P or Q)
QK03	1	1	1	1	1	HT309452B0	Transistor 2SC945(P or Q)
QK04	1	1	1	1	1	HD20001210	Diode 1S2473
QK05	1	1	1	1	1	HD20001210	Diode 1S2473
QK06	1	1	1	1	1	HD20001210	Diode 1S2473
QK07	1	1	1	1	1	HD20001210	Diode 1S2473
QK08	1	1	1	1	1	HD20001210	Diode 1S2473
QK09	1	1	1	1	1	HD20001210	Diode 1S2473
QK10	1	1	1	1	1	HD20001210	Diode 1S2473
QK11	1	1	1	1	1	HD20001210	Diode 1S2473
QK12	1	1	1	1	1	HD20001210	Diode 1S2473

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
Q101	1	1	1	1	1	HF200551D0	F.E.T. 2SK55(D)
Q102	1	1	1	1	1	HT310471C0	Transistor 2SC1047(C)
Q103	1	1	1	1	1	HT308291C0	Transistor 2SC829(C)
Q201	1	1	1	1	1	HT310471C0	Transistor 2SC1047(C)
Q202	1	1	1	1	1	HD20001210	Diode 1S2473
Q203	1	1	1	1	1	HD20001210	Diode 1S2473
Q204	1	1	1	1	1	HC10025010	IC HA11211
Q205	1	1	1	1	1	HD10003030	Diode 1S188
Q206	1	1	1	1	1	HD10003030	Diode 1S188
Q207	1	1	1	1	1	HD20001210	Diode 1S2473
Q301	1	1	1	1	1	HC10024060	IC UPC1161C
Q302	1	1	1	1	1	HT309452B0	Transistor 2SC945(P or Q)
Q303	1	1	1	1	1	HT309452B0	Transistor 2SC945(P or Q)
⚠Q701	1	1	1	1	1	HC10082030	IC STK-4793
⚠Q801	1	1	1	1	1	HD20009290	Diode S2V-20
⚠Q802	1	1	1	1	1	HD20009290	Diode S2V-20
⚠Q803	1	1	1	1	1	HD20009290	Diode S2V-20
⚠Q804	1	1	1	1	1	HD20009290	Diode S2V-20
Q805	1	1	1	1	1	HT412652A0	Transistor 2SD1265(O or P)
Q806	1	1	1	1	1	HD30027090	Zener WZ-140
Q807	1	1	1	1	1	HD30027090	Zener WZ-140
							P100-MISCELLANEOUS
FA01	1	1	1	1	1	FF10045200	Ceramic Filter 450kHz
F201	1	1				FF11070530	Ceramic Filter 10.7MD-1
F201			1	1	1	FF11070130	Ceramic Filter 10.7MS3GY-Z
F202	1	1				FF11070570	Ceramic Filter 10.7MS3G
F202			1	1	1	FF11070130	Ceramic Filter 10.7MS3GY-Z
J101	1	1	1	1	1	YT01040290	Terminal, Antenna
LA01	1	1	1	1	1	LA10295010	Antenna Coil, AM (SR220)
LA02			1			LA10295020	Antenna Coil, LW (SR220L)
LA03	1	1	1	1	1	LO10013280	OSC Coil, AM (SR220)
LA04			1			LO10013290	OSC Coil, LW (SR220L)
LA05	1	1	1	1	1	LI10013230	I.F.T. Coil, AM
L101	1	1	1	1	1	LA12026170	Antenna Coil, FM
L102	1	1	1	1	1	LA12026290	Antenna Coil, FM
L103	1	1	1	1	1	LO12036010	OSC Coil, FM
L104	1	1	1	1	1	LC17510010	Choke Coil, 0.75μH
L105	1	1	1	1	1	LI10016010	I.F.T. Coil, FM
L201	1	1	1	1	1	LI10013240	I.F.T. Coil, AM Detector
L202	1	1	1	1	1	LI10308020	I.F.T. Coil, FM Detector
L203	1	1	1	1	1	LI10308030	I.F.T. Coil, FM Detector
L204	1	1	1	1	1	LS10440030	M.P.X. Coil, FM
L701	1	1	1	1	1	LL23905120	Coil, Choke
L702	1	1	1	1	1	LL23905120	Coil, Choke
SA01			1			SS06020500	Slide Switch, MW-SW (SR220L)
S101	1	1	1	1	1	SR04040260	Rotary Switch, Selector
S701	1	1	1	1	1	SP02030190	Push Switch (SR220)
S701			1			SP04030270	Push Switch (SR220L)
S702			1			SB12640010	Switch Band, FLX (SR220L)
S703	1	1	1	1	1	SP02010680	Push Switch, Loudness
W701	1	1	1	1	1	YU03200240	Jumper Lead, (3P) (SR220)

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
							(SR220, SR220L)
							P400-PHONO AMP.
							CIRCUIT BOARD
P400	1	1	1	1	1	YK129H1920	P.W. Board Phono Amp.
	1	1	1	1	1	ZZ129H1920	P.W. Board Assembly
							P400-CAPACITORS
C401	1	1	1	1	1	DD15331370	Ceramic 330pF ±5%
C402	1	1	1	1	1	DD15331370	Ceramic 330pF ±5%
C403	1	1	1	1	1	EA47503530	Elect 4.7μF 35V
C404	1	1	1	1	1	EA47503530	Elect 4.7μF 35V
C405	1	1	1	1	1	EA47601030	Elect 47μF 10V
C406	1	1	1	1	1	EA47601030	Elect 47μF 10V
C407	1	1	1	1	1	DF15682300	Film 6800pF ±5%
C408	1	1	1	1	1	DF15682300	Film 6800pF ±5%
C409	1	1	1	1	1	DF15182300	Film 1800pF ±5%
C410	1	1	1	1	1	DF15182300	Film 1800pF ±5%
C411	1	1	1	1	1	DK16152300	Ceramic 1500pF ±10%
C412	1	1	1	1	1	DK16152300	Ceramic 1500pF ±10%
C413	1	1	1	1	1	EA47503530	Elect 4.7μF 35V
C414	1	1	1	1	1	EA47503530	Elect 4.7μF 35V
C415	1	1	1	1	1	EA10701630	Elect 100μF 16V
C416	1	1	1	1	1	EA10701630	Elect 100μF 16V
							P400-RESISTORS
							(All Resistor are ±5% & ¼W)
R401	1	1	1	1	1	GD05154140	150KΩ
R402	1	1	1	1	1	GD05154140	150KΩ
R403	1	1	1	1	1	GD05222140	2.2KΩ
R404	1	1	1	1	1	GD05222140	2.2KΩ
R405	1	1	1	1	1	GD05683140	68KΩ
R406	1	1	1	1	1	GD05683140	68KΩ
R407	1	1	1	1	1	GD05821140	820Ω
R408	1	1	1	1	1	GD05821140	820Ω
R409	1	1	1	1	1	GD05474140	470KΩ
R410	1	1	1	1	1	GD05474140	470KΩ
R411	1	1	1	1	1	GD05393140	39KΩ
R412	1	1	1	1	1	GD05393140	39KΩ
R413	1	1	1	1	1	GD05471140	470Ω
R414	1	1	1	1	1	GD05471140	470Ω
R415	1	1	1	1	1	GD05224140	220KΩ
R416	1	1	1	1	1	GD05224140	220KΩ
							P400-MISCELLANEOUS
Q401	1	1	1	1	1	HC10013370	IC TL4558PB
J401	1	1	1	1	1	YT02040470	Terminal, Tape IN/OUT
J402	1	1	1	1	1	YT02040470	Terminal, Phono Aux Input
W401	1	1	1	1	1	YU07180260	Jumper Lead, (7P)
W402	1	1	1	1	1	YU05220260	Jumper Lead, (5P)
W403	1	1	1	1	1	YU05220260	Jumper Lead, (5P)
W404	1	1	1	1	1	YU02140260	Jumper Lead, (2P)

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
							(SR220, SR220L)
							PE00-TONE VR.
							CIRCUIT BOARD
PE00	1	1	1	1	1	YK129H1990	P.W. Board Tone VR.
	1	1	1	1	1	ZZ129H1990	P.W. Board Assembly
							PE00-CAPACITORS
CE01	1	1	1	1	1	DF15183300	Film 0.018μF ±5%
CE02	1	1	1	1	1	DF15183300	Film 0.018μF ±5%
CE03	1	1	1	1	1	EA10405030	Elect 0.1μF 50V
CE04	1	1	1	1	1	EA10405030	Elect 0.1μF 50V
							PE00-RESISTORS
							(All Resistors are ±5% & ¼W)
RE01	1	1	1	1	1	GD05153140	15KΩ
RE02	1	1	1	1	1	GD05153140	15KΩ
RE03	1	1	1	1	1	GD05272140	2.7KΩ
RE04	1	1	1	1	1	GD05272140	2.7KΩ
RE05	1	1	1	1	1	GD05561140	560Ω
RE06	1	1	1	1	1	GD05561140	560Ω
RE15	1	1	1	1	1	RM01040630	100KΩ(C), Variable
							PE00-MISCELLANEOUS
WE01	1	1	1	1	1	YU05070260	Jamper Lead, (5P)
							(SR220, SR220L)
							PS00-TAPE MONITOR SW.
							CIRCUIT BOARD
PS00	1	1	1	1	1	YK129H1940	P.W. Board Tape Monitor SW.
	1	1	1	1	1	ZZ129H1940	P.W. Board Assembly
RS01	1	1	1	1	1	GD05102140	Resistor 1KΩ ±5% ¼W
RS02	1	1	1	1	1	GD05102140	Resistor 1KΩ ±5% ¼W
							(SR220, SR220L)
							PU00-POWER SWITCH
							CIRCUIT BOARD
PU00	1	1	1	1	1	YK129H1970	P.W. Board Power Switch
	1	1				ZZ129H1970	P.W. Board Assembly
			1	1	1	ZZ129H8970	P.W. Board Assembly
⚠G001	1	1				DK18103530	Ceramic Cap. 0.01μF
⚠G001			1	1	1	DK18103840	Ceramic Cap. 0.01μF
⚠S001	1	1				SP01010420	Push Switch, Power
⚠S001			1	1	1	SP01010390	Push Switch, Power

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
							(SR220, SR220L)
							PW00-HEADPHONE
							CIRCUIT BOARD
PW00	1	1	1	1	1	YK129H1950	P.W. Board Headphone
	1	1	1	1	1	ZZ129H1950	P.W. Board Assembly
RW01	1	1	1	1	1	GA05331010	Resistor 330Ω ±5% 1W
RW02	1	1	1	1	1	GA05331010	Resistor 330Ω ±5% 1W
JW01	1	1	1	1	1	YJ01001770	Jack, Headphone
							(SR220, SR220L)
							PW51-SPEAKER TERMINAL
							CIRCUIT BOARD
PW51	1	1	1	1	1	YK129H1960	P.W. Board Speaker Terminal
	1	1	1	1	1	ZZ129H1960	P.W. Board Assembly
JW51	1	1	1	1	1	YT03040220	Terminal, (4P)
WW01	1	1	1	1	1	YU02300240	Jumper Lead, (2P)
							(SR220, SR220L)
							PX00-L.E.D. METER
							CIRCUIT BOARD
PX00	1	1	1	1	1	YK129H1930	P.W. Board L.E.D. Meter
	1	1	1	1	1	ZZ129H1930	P.W. Board Assembly
							PX00-CAPACITOR
CX01	1	1	1	1	1	EA22505030	Elect 2.2μF 50V
							PX00-RESISTORS
							(All Resistors are ±5% & ¼W)
RX01	1	1	1	1	1	GD05151140	150Ω
RX02	1	1	1	1	1	GD05184140	180KΩ
RX03	1	1	1	1	1	GD05102140	1KΩ
RX04	1	1	1	1	1	GD05104140	100KΩ
RX05	1	1	1	1	1	GD05102140	1KΩ
RX06	1	1	1	1	1	GD05102140	1KΩ
RX07	1	1	1	1	1	GD05102140	1KΩ
RX08	1	1	1	1	1	GD05102140	1KΩ
RX09	1	1	1	1	1	GD05102140	1KΩ
RX10	1	1	1	1	1	GD05104140	100KΩ
RX11	1	1	1	1	1	GD05561140	560Ω
RX12	1	1	1	1	1	GD05102140	1KΩ
RX13	1	1	1	1	1	GD05102140	1KΩ
RX14	1	1	1	1	1	GD05223140	22KΩ

REF. DESIG.	Q'TY U	C	N	A	E	PART NO.	DESCRIPTION
							PX00-SEMICONDUCTORS
QX01	1	1	1	1	1	HC10003320	IC IR2E11
QX02	1	1	1	1	1	HI10030020	L.E.D. LN224RP, Signal
QX03	1	1	1	1	1	HI10030020	L.E.D. LN224RP, Signal
QX04	1	1	1	1	1	HI10030020	L.E.D. LN224RP, Signal
QX05	1	1	1	1	1	HI10030020	L.E.D. LN224RP, Signal
QX06	1	1	1	1	1	HI10030020	L.E.D. LN224RP, Signal
QX07	1	1	1	1	1	HI10031020	L.E.D. LN324GP, Tuning
QX08	1	1	1	1	1	HI10030020	L.E.D. LN224RP, Tuning
QX09	1	1	1	1	1	HI10030020	L.E.D. LN224RP, Tuning
QX10	1	1	1	1	1	HI10030020	L.E.D. LN224RP, Stereo
							PX00-MISCELLANEOUS
WX01	1	1	1	1	1	YU06160260	Jumper Lead, (6P)
							(SR220, ONLY)
							PC50-DE-EMPHASIS
							CIRCUIT BOARD
PC50					1	YF415H0010	P.W. Board De-Emphasis
					1	ZZ117H0010	P.W. Board Assembly
							PC50-CAPACITORS
CC51					1	DF15472300	Film 4700pF ±5%
CC52					1	DF15472300	Film 4700pF ±5%
CC53					1	DF15362300	Film 3600pF ±5%
CC54					1	DF15362300	Film 3600pF ±5%
							PC50-SWITCH
SC51					1	SS02020380	Slide Switch

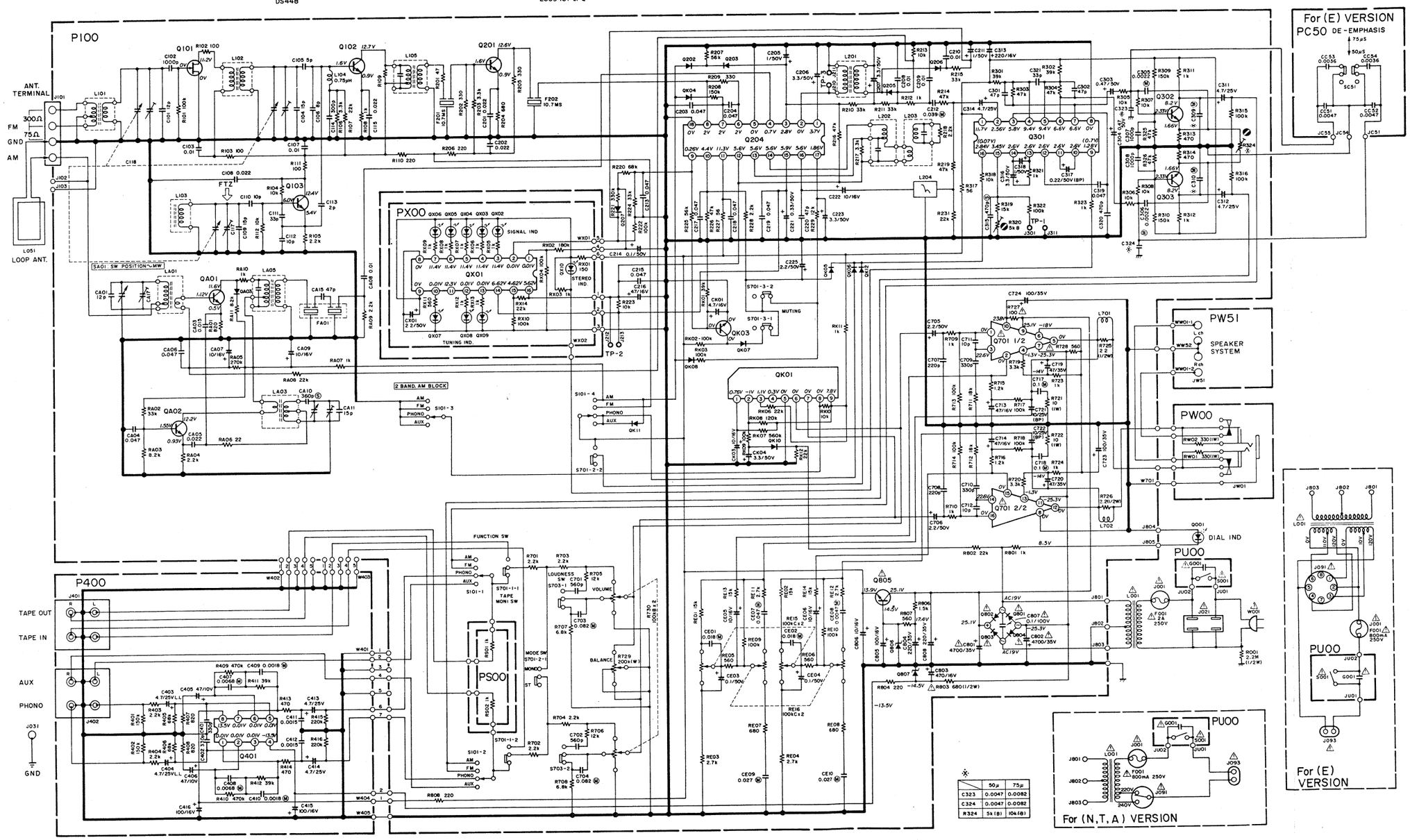
(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

NOTE ON SAFETY:

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

9. SCHEMATIC DIAGRAM

Q001	Q101	Q102 , Q201	Q103	Q202, Q203	Q204	Q205, Q206, QA03	Q301	Q302, Q303	Q401	Q701	Q801 ~ Q804	Q805	Q806, Q807	QA01 QA02	QK01	QX01	QX02 ~ QX06	QX07
H110033020	HF20055ID0	HT3104710	HT308291D0	QK04 ~ QK12	HD20016030	HD10003030	HC10024060	QK02, QK03	HC10013370	HC10082030	HD20009290	2SD313	HD30027060	HT308291C	HC10031020	HC10003320	QX08 ~ QX10	H110031020
L.E.D	2SK55D	2SC1047	2SC829	HD20016030	HA11211	IS1888FM1	μPC1161C	HT309452B0	TL4558PB	STK4793	S2V-20	2SD313	RD-15EB2	2SC829C	AN6135	IR2E11	H110030020	H110031020
				DS448				2SC945P or Q									LN224RP	LN324GP



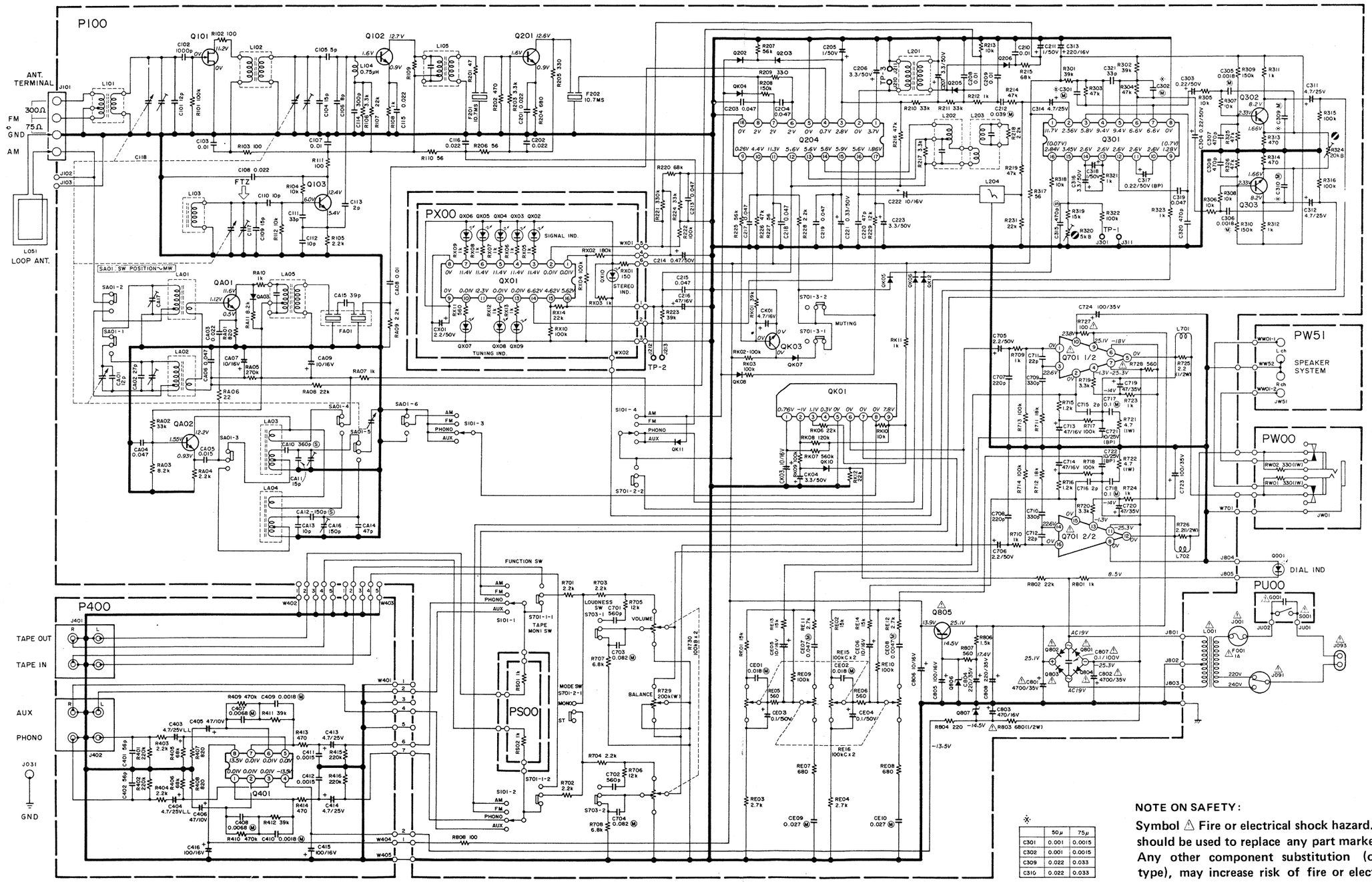
NOTE ON SAFETY:

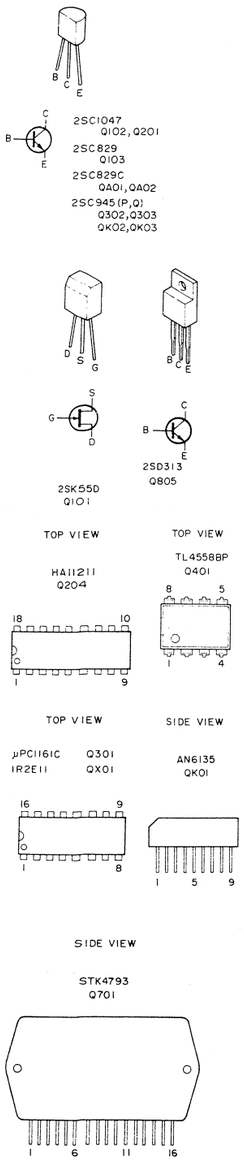
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

Components and wiring are subject to change for modification without notice.

Model SR220L

Q001	Q101	Q102,Q201	Q103	Q202,Q203	Q204	Q205,Q206,QA03	Q301	Q302,Q303	Q401	Q701	Q801～Q804	Q805	Q806,Q807	QA01 QA02	QK01	QX01	QX02～QX06	QX07
H110033020	HF200551D0	HT310471C0	HT308291D0	QK04～QK12	HC10025010	HD10003030	HC10024060	QK02,QK03	HC10013370	HC10082030	HD20009290	HT403131E0	HD30027060	HT308291C	HC10031020	HC10003320	QX08～QX10	H110031020
L.E.D	2SK55D	2SC1047	2SC829	HD20016030	HA11211	IS1888FM1	μPC1161C	HT309452B0	TL4558PB	STK4793	S2V-20	2SD313	RD-15EB2	2SC829C	AN6135	IR2E11	H110030020	H110031020
				DS448				2SC945P or Q									LN224RP	LN324GP





	50μ	75μ
C301	0.001	0.0015
C302	0.001	0.0015
C309	0.022	0.033
C310	0.022	0.033

NOTE ON SAFETY:

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

Components and wiring are subject to change for modification without notice.

10. TECHNICAL SPECIFICATIONS

AUDIO SECTION

POWER OUTPUT PER CHANNEL

DIN 4 OHMS	**20W**
RMS 4 OHMS	**18W**
DIN 8 OHMS	**18W**
RMS 8 OHMS	**16W**
TOTAL HARMONIC DISTORTION AT RMS 8 OHMS	**0.1%**
DAMPING FACTOR 8 OHMS	**30**

Frequency Response		
Phono:	(RIAA)	±2.0 dB
Aux:	(±2.0 dB)	40 Hz – 20 kHz
Signal-to-Noise Ratio		
Phono		70 dB
Aux		80 dB
Input Terminals		
Phono:	Input Sensitivity/Impedance	2.8 mV/47 kohms
Aux:	Input Sensitivity/Impedance	160 mV/25 kohms

FM TUNER SECTION

Frequency Range		87.4 – 108.2 MHz
Usable Sensitivity		
DIN Mono (S/N 26 dB, 75 ohms)		1.5 μV
DIN Stereo (S/N 46 dB, 75 ohms)		25 μV
Alternate Channel Selectivity, 98 MHz		60 dB
Signal-to-Noise Ratio, 98 MHz		
Unweighted:	Mono	70 dB
	Stereo	50 dB
Weighted:	Mono	75 dB
	Stereo	65 dB

MW TUNER SECTION

Frequency Range	525 – 1630 kHz
Usable Sensitivity (20 dB S/N 30% Mod., 1 MHz)	30 μV
Selectivity	30 dB

LW TUNER SECTION

Frequency Range	145 – 380 kHz
Usable Sensitivity (20 dB S/N 30% 250 kHz)	200 μV

GENERAL

Power Requirements	
N Version	220/240V AC 50/60 Hz
T Version	220/240V AC 50/60 Hz
E Version	110/120/220/240V AC 50/60 Hz
Power Consumption at Rated Output, Both Channels Operating	90W
Dimensions	
Panel Width	416 mm
Panel Height	100 mm
Depth	194 mm
Weight	
Unit alone	4.9 kg

Specifications and appearance are subject to change for modification without notice.